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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,986	03/26/2004	Torsten Ohms	10191/3421	9612
26646	7590	07/26/2005	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			ELLINGTON, ALANDRA	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/809,986	Applicant(s) OHMS ET AL.	
	Examiner Alandra Ellington	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 1-7, 11 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/26/04</u> . | 6) <input type="checkbox"/> Other: ____. |

Non-Final Rejection

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 400 (Fig. 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-7, 11, 12 and 14 are objected to because of the following informalities:
- a. With respect to claim 1, replace "capacitive" in line 6 with -- capacitance --.
 - b. With respect to claim 11, delete "one of in and" after "measurement" because the phrase makes the claim unclear.
 - c. With respect to claim 14, delete "in the first component" after "the second electrode" because the phrase makes the claim unclear. The second electrode is associated with the second component.
- Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 7-12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Igel et al (6,370,960) (hereinafter Igel).

a. With respect to claim 1, Igel discloses a capacitive micromechanical pressure sensor with a first component 1 comprising a first electrode 3, the first component 1 including a semiconductor material, and a second component 2 including a first diaphragm 5, the second component 2 being at least partially composed of metal, wherein a capacitance is measured via at least the first electrode 3 and a movement of the first diaphragm 5, and wherein the first and second components 1,2 are processed separately (abstract, col. 2 lines 46-58, col. 3 lines 9-30,62-67, col. 4 lines 1-2 {Figs. 1,2}).

b. With respect to claim 2, Igel discloses the pressure sensor of claim 1, wherein one of the first component and the second component includes a second electrode 4, the capacitance being measured via the second electrode 4 (col. 2 lines 49-52, col. 3 lines 11-13,63-67, col. 4 lines 1,2).

c. With respect to claim 3, Igel discloses the pressure sensor of claim 2, wherein the second electrode 4 is in the second component 2 and is

implemented by the first diaphragm 5 (col. 3 lines 9-30,62-67; col. 4 lines 1-2 {Figs. 1,2}).

d. With respect to claim 5, Igel discloses the pressure sensor of claim 1, wherein the first component 1 with at least a part of a circuit 6 for analyzing a capacitance measurement, the circuit 6 being situated on a side of the first component 1 opposite the first electrode 3, the first electrode 3 being contacted with the circuit 6 via an electric connection within the components (col. 3 lines 15-27 {Fig. 1}).

e. With respect to claim 7, Igel disclose the pressure sensor of claim 2, wherein the second electrode 4 is moveable with respect to the first electrode 3 in such a way that a movement of the second electrode 4 takes place as a function of a movement of the first diaphragm 5, a distance between the first and second electrodes 3,4 changing linearly with the movement of the first diaphragm 5 (col. 3 lines 9-14,35-67, col. 4 lines 1-4 {Figs. 1,2}).

f. With respect to claim 8, Igel discloses a method for manufacturing a capacitive micromechanical pressure sensor, the method comprising: providing a first component 1 including a first electrode 3, the first component 1 including a semiconductor material, and providing a second component 2 including a first diaphragm 5, the second component 2 being at least partially composed of metal, wherein a capacitance is measured via at least the first electrode 3 and the first diaphragm 5, wherein the first and second components 1,2 are processed differently, and wherein the pressure sensor is manufactured by

assembling the first and second components 1,2 (abstract, col. 2 lines 46-58, col. 3 lines 9-30,62-67, col. 4 lines 1-2 {Figs. 1,2}).

g. With respect to claim 9, Igel discloses the method according to claim 8, further comprising producing a second electrode 4 in one of the first component and the second component 2 (col. 2 lines 49-52, col. 3 lines 11-13,63-67, col. 4 lines 1,2).

h. With respect to claim 10, Igel discloses the method according to claim 9, wherein the second electrode 4 in the second component 2 is implemented by the first diaphragm 5 (col. 3 lines 9-30,62-67, col. 4 lines 1-2 {Figs. 1,2}).

i. With respect to claim 11, Igel discloses the method according to claim 8, further comprising producing at least a part of a circuit 6 or analyzing a capacitance measurement on the first component 1 (col. 3 lines 15-27 {Fig. 1}).

j. With respect to claim 12, Igel discloses the method according to claim 11, wherein the circuit 6 is produced on a side of the first component 1 opposite the first electrode 3, and wherein the first electrode 3 is contacted with the circuit 6 via an electric connection within the components (col. 3 lines 15-27 {Fig. 1}).

k. With respect to claim 14, Igel discloses the method according to claim 9, wherein the second electrode 4 is movable with respect to the first electrode 3 in such a way that a movement of the second electrode 4 takes place as a function of a movement of the first diaphragm 5, a distance between the first and second electrodes 3,4 changing linearly with the movement of the first diaphragm 5 (col. 3 lines 9-14,35-67, col. 4 lines 1-4 {Figs. 1,2}).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igel et al (6,370,960) in view of Chavan et al (6,109,113) (hereinafter Chavan).

a. With respect to claim 6, Igel discloses the claimed invention except for teaching a non-conductive material connecting the first and second components. Chavan discloses a non-conductive material 56,60,62 connecting the first and second components 16,18 to one another (col. 6 lines 1-16 {Fig. 5}). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Igel with the teaching of Chavan to include a non-conductive material connecting the first and second components to one another for the purpose of electrically isolating the sealing layer from the diaphragm electrode and for isolating the sealing layer from an etchant that removes a region during fabrication (see Chavan, col. 2 lines 37-42, col. 6 lines 1-16 {Fig. 5}).

b. With respect to claim 13, Igel discloses the claimed invention except teaching the method step wherein the first and second components are connected to one another by a non-conductive material. Chavan teaches the method step wherein first and second components 16,18 are connected to one

another by a non-conductive material 56,60,62 (col. 6 lines 1-16 {Fig. 5}). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Igel with the teaching of Chavan to include a method step wherein first and second components are connected to one another by a non-conductive material for the purpose of electrically isolating the sealing layer from the diaphragm electrode and for isolating the sealing layer from an etchant that removes a region during fabrication (see Chavan, col. 2 lines 37-42, col. 6 lines 1-16 {Fig. 5}).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Igel (6,370,960) in view of Chavan (6,109,113) as applied to claim 1 above, and further in view of Glück (6,725,724).

a. With respect to claim 4, Igel discloses a capacitive micromechanical pressure sensor with a first component 1 comprising a first electrode 3, the first component 1 including a semiconductor material, and a second component 2 including a first diaphragm 5, the second component 2 being at least partially composed of metal, wherein a capacitance is measured via at least the first electrode 3 and a movement of the first diaphragm 5, and wherein the first and second components 1,2 are processed separately (abstract, col. 2 lines 46-58, col. 3 lines 9-30,62-67, col. 4 lines 1-2 {Figs. 1,2}). However, Igel in view of Chavan does not specifically teach a second component with a steel diaphragm. Glück teaches a sensor with a steel diaphragm 10(col. 1 lines 63-65, col. 2 lines 40-43 {Fig. 1d}). It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to modify Igel in view of Chavan with the teachings of Glück to include a steel diaphragm for the purpose of manufacturing high pressure sensor that ensure a good electric insulation in a cost effective manner (see Glück, col. 1 lines 47-51,63-65, col. 2 lines 40-43).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(5,585,311) (6,470,754) (6,860,154)

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra Ellington whose telephone number is (571) 272-2178. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alandra Ellington
Art Unit 2855



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William Oen
Primary Examiner